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| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
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| 10/559,792 | 05/22/2007 | Roelof Marissen | 4662-117 | 7526 |

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| EXAMINER | |
|---|---|
| FANG, SHANE | |

| ART UNIT | PAPER NUMBER |
|---|---|
| 1796 | |

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**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

| Office Action Summary | Application No. | Applicant(s) | |
|---|---|---|---|
| | 10/559,792 | MARISSEN ET AL. | |
| | Examiner | Art Unit | |
| | SHANE FANG | 1796 | |

*-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --*

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE *3* MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

1)☒ Responsive to communication(s) filed on *22 May 2007*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

4)☒ Claim(s) *1-8* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-8* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

**Application Papers**

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

12)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☒ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date *12/08/2005*.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

## DETAILED ACTION

The "A" reference, Tamaki et al. (Chem. Material, Jan., 2003, 15, 793-797) is used for 102 rejections on some claims.

### *Election/Restrictions*

The examiner has withdrawn the restriction requirement described in the telephone communication on 06/29/2009.

### *Claim Rejections - Double Patenting*

1. The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the "right to exclude" granted by a patent and to prevent possible harassment by multiple assignees. A nonstatutory obviousness-type double patenting rejection is appropriate where the conflicting claims are not identical, but at least one examined application claim is not patentably distinct from the reference claim(s) because the examined application claim is either anticipated by, or would have been obvious over, the reference claim(s). See, e.g., In re Berg, 140 F.3d 1428, 46 USPQ2d 1226 (Fed. Cir. 1998); In re Goodman, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); In re Longi, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); In re Van Ornum, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); In re Vogel, 422 F.2d 438, 164 USPQ 619 (CCPA 1970); and In re Thorington, 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) or 1.321(d) may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground provided the conflicting application or patent either is shown to be commonly owned with this application, or claims an invention made as a result of activities undertaken within the scope of a joint research agreement.

Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

2. Claims 1 and 4-7 are provisionally rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claims 1 and 4-6 of copending Application No. 10/552472. This is a provisional obviousness-type double patenting rejection because the conflicting claims have not in fact been patented.

Claims 1 of No. 10/552472 meet all claimed limitations and anticipate instant claims 1 and 4.

Claims 4 of No. 10/552472 meet all claimed ranges of density and Young's modulus and anticipate instant claim 5.

Claims 5 of No. 10/552472 meet instant claim 6 regarding the property of "free of cavities comprising a gas".

Claims 6 of No. 10/552472 meet instant claim 7 regarding "shaped article".

### *Claim Rejections - 35 USC § 112 and §101*

3. The following is a quotation of the second paragraph of 35 U.S.C. 112:

> The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

4. 35 U.S.C. 101 reads as follows:

> Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

5. Claim 8 provides for the use of isotropic polymeric network, but, since the claim does not set forth any steps involved in the method/process, it is unclear what method/process applicant is intending to encompass. A claim is indefinite where it merely recites a use without any active, positive steps delimiting how this use is actually practiced.

Claim 8 is rejected under 35 U.S.C. 101 because the claimed recitation of a use, without setting forth any steps involved in the process, results in an improper definition of a process, i.e., results in a claim which is not a proper process claim under 35

U.S.C. 101. See for example *Ex parte Dunki*, 153 USPQ 678 (Bd.App. 1967) and *Clinical Products, Ltd.* v. *Brenner*, 255 F. Supp. 131, 149 USPQ 475 (D.D.C. 1966).

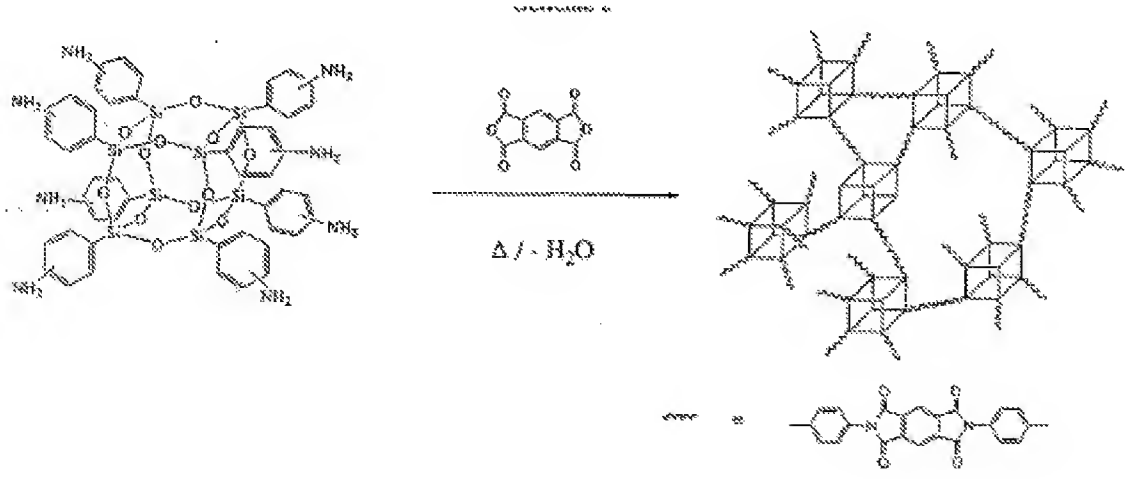
***Claim Rejections - 35 USC § 102***

6. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

7. Claims 1 and 3-7 are rejected under 35 U.S.C. 102(b) as being anticipated by Tamaki et al. (Chem. Material, Jan., 2003, 15, 793-797) listed on ISP and IDS.

As to claim 1, Tamaki et al. discloses a process of producing polymeric network comprising multifunctional molecules with at least five functionalities (amino groups) having the following left structures (Pg. 795, scheme 2) to be crosslinked with dianhydride (PMDA) as the coupling agent in NMP (Pg. 795, 2: 6) to form a polymeric network:



The functionality of aminophenyl terminated silsesquioxane (POSS) is more than 5. Based on the structure of said POSS, the resultant network would be inherently isotropic and connected by supramolecular chemical bonds.

As to claim 3, Tamaki et al. discloses ratio of 1:2=PMDA:$NH_2$ (Pg. 795, 2: 4).

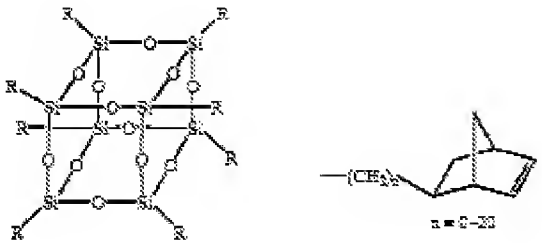
As to claim 4, Tamaki et al. is silent on formula (I) as a property of the resultant network. However, In view of the substantially identical composition, it appears that the adduct would have inherently possessed the claimed properties. See MPEP § 2112. In this particular case, no chemical, structural, and process difference is shown between claimed and disclosed network materials and the process of producing thereof. The disclosed network and process would inherently exhibit the claimed properties of formula (I).

Claims 5-6 are rejected for the same reason as applied to claim 4 concerning the properties of density, Young's modulus, and "free of cavities comprising a gas".

As to claim 7, Tamaki et al. discloses a cured mold of resultant polymeric network (Pg. 795, 2: 10-20).

8. Claims 1-2 and 4-6 are rejected under 35 U.S.C. 102(b) as being anticipated by Lichtenhan et al. (US 5942638) and evidenced by Odian (Principle of Polymer Science, 3rd ed., Wiley-Interscience, 1993, Pg. 577-578).

As to claims 1-2, Lichtenhan et al. discloses A method for the functionalization and polymerization of polycyclic silicones having the following solvent in solvent (claim 1, 8):



wherein the R group can be the above right structure (a cycloolefin, 5:35-45) in presence of metathesis catalyst selected from transition metals such as Mo, Ru, etc. complexed with alkylidene or alkykdyne ligands including halides, alkoxides and siloxides thereof (claim 3).

The functionality (C=C) above left structure is more than 5. Based on the structure, the resultant network would be inherently isotropic and connected by supramolecular chemical bonds. The transition metal/ligand (metathesis catalyst) inherently works as coupling agent to form network via polymerization through cyclopentadiene groups, as evidenced by Odian. Odian discloses polymerization of cycloolefin such as cyclopentadiene (P. 578, 7-104) by polymerization in presence of metathesis catalyst (P. 577, ¶1-3). The metathesis catalyst forms bonds with olefin though propagating center as metal-carbene bond (P. 577, 7-103).

Claims 4-6 are rejected again for the same reason as applied to ¶7 concerning the properties of formula (I), density, Young's modulus, and "free of cavities comprising a gas".

***Conclusion***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to SHANE FANG whose telephone number is (571)270-7378. The examiner can normally be reached on Mon.-Thurs. 8 a.m. to 6:30 p.m. EST..

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Randy Gulakowski can be reached on (571) 272-1302. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Sf

/Randy Gulakowski/
Supervisory Patent Examiner, Art Unit 1796